

the intensity of the heat that produced the rock. Some of the minerals that enter into the composition of the unstratified rocks being more easily fused than others, we may imagine that, under some circumstances, one difficult of fusion has not been reduced to a liquid state, while others, less resisting the action of fire, may have been ejected. To the shades of mineralogical distinction produced by this and similar adventitious causes, some writers have attached great importance, and have given names to the several varieties of rock; but it may be doubted whether science has derived much advantage from this particularity, and it is possible that the time expended in describing and naming them would, in the present state of our knowledge, have been better employed in determining their general characters and probable physical constitution.

The importance of the unstratified rocks, in relation to the extent of space they occupy on the surface of the globe, is much inferior to that of the other class. In England they do not cover one thousandth part of the surface, and the same observation might be made in reference to many other countries. Generally speaking, they occupy the highest points of the district in which they occur, and some of the loftiest peaks and ridges on the surface of the globe are composed of them. It must not, however, be understood that they always occur in such positions; for although they compose some of the points of the gigantic mountain chains of South America as well as of the Alps, yet they sometimes are found on the seashore, as in many of the Western Isles.

Another fact worthy of notice in relation to the unstratified rocks, is their great want of continuity. Stratified beds frequently extend over considerable districts, and may be traced at the surface for many miles. The unstratified rocks, on the other hand, rarely occupy any considerable extent of surface, but protrude themselves among the stratified at considerable distances from each other, and in comparatively small quantities. "In Scotland, it is not unusual," Dr. Macculloch states, "to find a portion of some one of these rocks, of a few yards in diameter, separated for many miles from any other mass of the same rock, though it is possible they may be united beneath the surface."

A few observations may be made on the two classes of unstratified rocks, the granitic and the trappean.